

Color Television Type

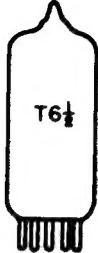
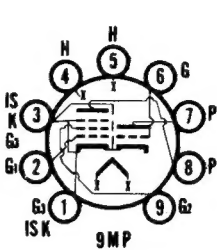
VHF OSCILLATOR and MIXER

6HG8/ECF86

4HG8, 5HG8/LCF86,
7HG8/PCF86, 8HG8

Medium Mu Triode and
Sharp Cutoff Pentode

ConstructionMiniature T-6½
BaseButton 9 Pin, E9-1
Basing9MP
Outline6-2
Maximum Diameter0.875 In.
Maximum Seated Height1.937 In.
Maximum Overall Height2.187 In.



ELECTRICAL DATA
HEATER OPERATION

| | 8HG8 | 7HG8/ PCF86 | 5HG8/LCF86 | 4HG8 | 6HG8/ ECF86 |
|---|------|----------------|------------|------|----------------|
| Heater Voltage..... | 8.0 | 7.2 | 5.3 | 4.5 | 6.3 Volts |
| Heater Current | 300 | 300 | 450 | 600 | 340 Ma |
| Heater Warm-up Time | — | — | 11 | 11 | — Seconds |
| Maximum Heater-Cathode Voltage | | | | | |
| Heater Negative with Respect to Cathode | | | | | |
| Total DC and Peak..... | | | | | 200 Volts |
| Heater Positive with Respect to Cathode | | | | | |
| DC | | | | | 100 Volts |
| Total DC and Peak..... | | | | | 200 Volts |

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

| | | |
|---|--|----------|
| Triode Section | | |
| Grid to Plate | | 2.0 Pf |
| Input: g to (h + k, Pk, Pg3, IS) | | 2.4 Pf |
| Output: p to (h + k, Pk, Pg3, IS) | | 1.1 Pf |
| Pentode Section | | |
| Grid No. 1 to Plate (Max.)..... | | 0.020 Pf |
| Input: g1 to (h + k, Tk, g3, IS + g2) | | 6.0 Pf |
| Output: p to (h + k, Pk, Pg3, IS + g2) | | 3.5 Pf |
| Grid No. 1 to Grid No. 2 | | 1.7 Pf |
| Coupling | | |
| Triode Grid to Pentode Plate (Max.) | | 0.014 Pf |
| Pentode Grid No. 1 to Triode Plate (Max.) | | 0.01 Pf |
| Pentode Plate to Triode Plate (Max.) | | 0.14 Pf |
| Pentode Grid No. 1 to Triode Grid (Max.) | | 0.01 Pf |

RATINGS (Design Maximum Rating System)

| | Triode Section | Pentode Section |
|--|------------------------------------|--------------------|
| Plate Voltage (Max.) | 125 | 250 Volts |
| Grid No. 2 Supply Voltage (Max.) | — | 250 Volts |
| Grid No. 2 Voltage | See Rating Chart (Gen. Info. Sec.) | |
| Positive Grid No. 1 Voltage (Max.) | 0 | 0 Volt |
| Plate Dissipation (Max.) | 1.9 | 2.2 Watts |
| Grid No. 2 Dissipation (Max.) | — | 0.55 Watts |
| Cathode Current (Max.)..... | 16.5 | 20 Ma |
| Grid No. 1 Circuit Resistance (Max.) | 0.5 | — Megohm |
| Fixed Bias (Max.) | — | 0.25 Megohm |
| Cathode Bias (Max.) | — | 0.5 Megohm |

The spacing between the control grids and cathodes are of such a low order of magnitude as to preclude the use of excessive voltages between these elements in commercial tube checkers and shorts indicating devices, particularly where the tube is mechanically excited. The DC or peak AC voltage applied between each sections control grid and cathode must not exceed 30 volts for the pentode or 50 volts for the triode.

RATINGS (Design Maximum Rating System)**Horizontal Deflection Amplifier⁽¹⁾**

| | |
|--|------------|
| Plate Voltage (boost + DC power supply) (Max.) | 770 Volts |
| Grid No. 2 Voltage (Max.) | 220 Volts |
| Plate Dissipation (Max.) | 24 Watts |
| Grid No. 2 Dissipation (Max.) | 6.0 Watts |
| Grid No. 2 Dissipation (warm up surge) (Max.) ⁽²⁾ | 12 Watts |
| Average Cathode Current (Max.) | 280 Ma |
| Peak Cathode Current (Max.) | 1000 Ma |
| Peak Positive Plate Voltage (Max.) | 7000 Volts |
| Peak Negative Plate Voltage (Max.) | 1500 Volts |
| Peak Negative Grid No. 1 Voltage (Max.) | 330 Volts |
| Grid No. 1 Circuit Resistance (Max.) | 1.0 Megohm |
| Bulb Temperature (at Hottest Point) (Max.) | 240 °C |
| DC Grid No. 3 Voltage (Max.) | 70 Volts |

CHARACTERISTICS AND TYPICAL OPERATION

| | | | | |
|--|--------------------|--------------------|--------------------|-------------------|
| Plate Voltage | 20 | 40 | 60 | 135 Volts |
| Grid No. 2 Voltage | 110 | 110 | 135 | 135 Volts |
| Grid No. 1 Voltage | 0 | 0 | 0 | -22 Volts |
| Grid No. 3 Voltage | — | — | — | 0 Volt |
| Plate Current | 240 ⁽³⁾ | 400 ⁽³⁾ | 540 ⁽³⁾ | 80 Ma |
| Grid No. 2 Current | 160 ⁽³⁾ | 42 ⁽³⁾ | 48 ⁽³⁾ | 5.5 Ma |
| Triode Amplification Factor | — | — | — | 4.2 |
| Transconductance | — | — | — | 10,000 μ mhos |
| Plate Resistance | — | — | — | 5000 Ohms |
| Grid No. 1 Voltage (Approx.) for Ib = 1 Ma (Ep = 4.5 KV) | — | — | — | -70 Volts |

NOTES:

- (1) For operating in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations, Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) Surge not to exceed 15 seconds duration.
- (3) Instantaneous Values.